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ABSTRACT

Educational psychology, being part of the youth-oriented education system, has neglected adult development and learning phenomena. Recent major socio-cultural changes challenge the discipline's youth orientation while simultaneously offering opportunities for significant research, teaching and service, and for fertile dialectic within the higher education communities. There have been large-scale changes in national demographics as the once youthful American population grows older. Progressive declines in birthrates accompanied by greater prospects for longevity make the continuation of the traditional youth orientation in higher education less tenable. Several elements have contributed to a definition of higher education which is less youth-oriented: (1) institutional closings, (2) the fading of degree program enrollments, (3) a surge in part-time students, (4) the increasing role of non-credit courses, (5) the growth of non-collegiate postsecondary schools, and (6) the changing profile of the learner in higher education. New conceptions of adult development and the substantiation of life-long learning also indicate a need for research regarding the older learner. (Author/NRB)

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MATURE ADULT LEARNERS AND THE NEED TO KNOW

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Mature Adult Learners and the Need to Know

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Educational psychology is part of a system that has been age-segmented, youth-oriented. The system is the education system. This system, of which higher education is a component, has operationalized a concept of human development that is essentially biological: a fairly unitary process of change that is unidirectional, sequential, irreversible, normative, and endstate (e.g., maturity) oriented. This concept of human development is the traditional concept of child development.

Baltes and Willis (1978) suggest that science-irrevelant factors, such as the child-oriented features of Western societies, and attendant political considerations such as funding mechanisms, restricted the focus of development to the child, and frustrated the earlier (eighteenth and nineteenth centuries) life-span orientation of the behavioral sciences. These factors, moreover, narrowed the focus of all education, higher education included, to youth. The predominance in numbers of youth in the population likely also contributed.

Tying expectations for behavior, especially cognitive behavior, to intra-organismic-maturational variables has meant that behaviors of those maturing would be characterized by growth while behaviors of those matured would be characterized by stability or decline. Assumptions of decelerating or negative mental growth after adolescence have supported higher education's youth orientation and have been major impediments to an adult orientation in higher

education. Colleges and universities have been unable to "overcome their own static view of themselves as enclaves reserved largely for post-adolescent resident students to be visited for brief and rigidly defined periods of time" (Hechinger, 1975). Witness the direction of educational growth in the United States. In 1910, only 15% of all 14-17 year olds attended school; by 1943, 64%, and by 1979, 95% of this group were in school (Omang, 1979). Until quite recently adult participation in all phases of education, including higher education, has remained relatively low over these years (Christoffel, 1979).

Accordingly, educational psychology, being part of the youth-oriented education system, has essentially neglected adult development and learning phenomena. Several recent major socio-cultural changes, however, challenge the disciplines's youth orientation, at once almost forcefully redirecting its attention while simultaneously offering opportunities for significant research, teaching and service, and for fertile dialectic within the higher education communities. These major changes include:

(1) large scale shifts in national demographics

(2) reshaping of the form and substance of postsecondary education

(3) new conceptions of adult development

(4) the substantiation of life-long learning.

An examination of each, but fundamentally of the first two factors, is appropriate in order to understand the influences affecting traditional educational psychology.

1. Large-scale shifts in national demographics

The United States, like most Western, industrialized nations, is aging. Its population, once primarily youthful, is growing older. The adult cohorts, especially those of mature and older adults, are the fastest growing segments

of the population in industrialized nations. For example, while the present total population of the United States is about three times its 1900 figure, those age 40 and above are approximately five times their number in 1900, those age 50 and above six times and age 60 and above nearly seven times the numbers of their counterparts in 1900. As Table 1 demonstrates the decade of the 1980's will see increases in the sizes of adult cohorts 25-34 years, 35-44 years, and 45-54 years of 13.5%, 42.4% and 11.5% respectively, while witnessing substantial decreases in the 14-17 years and 18-24 years segments. Almost one-third of all Americans are now over age 45 (U.S. Bureau of the Census, 1976).

Nor is the American experience unique. The U.S. figure of approximately 77% of its population being over age 15 (Bureau of the Census, 1976) is met or exceeded by the figures for Canada, Japan, U.S.S.R., and every country of Europe and Oceania (UNESCO, 1975). A major contributing factor, of course, is the drift toward Zero Population Growth of most industrialized countries. Day (1978) lists the following 26 countries at or approaching ZPG through low fertifility, as of May 1978:

Australia	Germany, West	Poland
Austria	Greece	Singapore
Belgium	Hungary	Sweden
Bulgaria	Italy	Switzerland
Canada	Japan	United Kingdom
Denmark	Luxembourg	United States
Finland	Malta	U.S.S.R.
France	Netherlands	Yugoslavia
Germany, East	Norway	

This drift toward ZPG seems rather well-established and unlikely to abate. Even were it to reverse itself miraculously, it would take a decade or two for the changes to be felt by higher education, Futher, the tendency seems consistent with the prevailing trends of the twentieth century: progressive declines in birthrates accompanied by greater prospects for longevity. Indeed,

the epochal total fertility rate of 3.8 births per female in 1957 (Dearman and Plisko, 1980) stands out as the exception to a general pattern going back to the last century of fewer and fewer births. The present total fertility rate of approximately 1.8 births per female is more consistent with, rather than dissonant from, the overall trend of modern industrialized nations (Westoff, 1978). The post-war "baby boom," which predicated much institutional growth in education and supported an age-segmented mentality in educational psychology and other disciplines, was an anomaly, a fluke. There is now a steady decrease in the proportion of the population below age 18, as the median age of U.S. citizens has risen from 27.9 years in 1970 toward a projected 32.8 years in 1990 (Dearman and Plisko, 1980).

The traditional "fodder" of higher education, the high school graduate, is becoming less plentiful. In the United States, according to the Western Interstate Commission for Higher Education, the numbers of high school graduates will drop dramatically between 1979-1995: down 31-59% in 12 states and the District of Columbia, down 17-28% in another 14 states, and down 2-15% in an additional 14 states. Only 10 states, primarily in the Sun Belt, will show any increments at all (Magarrell, 1980).

In short, significant population changes make the continuation of the traditional youth orientation in higher education and its social-behavioral disciplines less tenable.

2. Reshaping the form and substance of postsecondary education

There are a number of elements in the reshaping of postsecondary education. These include (a) numerous institutional closings; (b) the fading of degree program enrollments; (c) the surge in part-time student status, especially at pre-baccalaureate levels; (d) the increasing role of non-credit

or continuing education courses; (e) the growth of non-collegiate post-secondary schools; and (f) the changing profile of the learner in higher education. Each element has contributed to an emerging redefinition of higher education; each has chipped away at the traditional age-segmented, youth-oriented mentality of education; in the aggregate they have created new opportunities and potential demands for educational psychologists.

(a) Since 1969, some 130 private colleges have closed their doors (Johnson, 1979). The causes of the failures were many; for a number of them they included failing to keep pace with changing student profiles and needs.

(b) These changes seem to include a fundamental re-orientation away from established degree programs. The number of earned bachelor's, master's, and doctor's degrees has been dropping irregularly since the mid-1970's. Following the peak enrollment of 1981-82, when the last of the "baby boom" cohorts enters the higher education system, these earned degrees are projected to decline sharply (National Center for Education Statistics, 1980).

Total enrollments in the 3,134 institutions of higher education in the United States are expected to decrease during the 1980's, following the 1981-82 peak. As Table 2 shows, enrollment drops should be less pronounced among two-year institutions. It should be noted, further, that even with declining enrollments, well over 11 million students are anticipated throughout the 1980's.

(c) These students are more and more likely to be part-time. In the 1970's part-time enrollments increased rapidly at the undergraduate level in both public and private institutions (Dearman and Plisko, 1980). The American Association of Community and Junior Colleges (AACJC) reports that 63% of the 4.49 million "total headcount enrollments for credit" among two-year institutions were part-time students (Gilbert, 1980a).

Student enrollments are also more likely to be at pre-baccalaureate levels. AACJC notes that in 1970 for every 100 undergraduates enrolled in four-year colleges, there were 37 in two-year colleges; by 1978 the ratio had increased to 100 to 43 (Gilbert, 1980b).

(d) Consistent with the shifts away from degree programs and toward pre-baccalaureate education is the growth of non-credit education. The number of institutions offering non-credit adult and continuing education doubled between 1968-1978 to 2,375 institutions, while the number of registrations increased 80% to 10.2 million in 1978. The AACJC notes that in addition to the 4.49 million "total headcount enrollments for credit" within two-year institutions in Fall 1979, there were 3.42 million enrollments for non-credit, continuing education.

(e) Education is also apparently more likely than before to occur outside of traditional academe. Just as the profile of the postsecondary student can be seen to be less "traditional," so increasingly are the institutions that educate that student. So-called "noncollegiate noncorrespondence postsecondary schools, with occupational programs" include technical institutes, business and office schools, as well as vocational and technical, trade, health allied, arts and design schools. Although the number of these institutes and schools declined from 8,716 in 1974 to 7,625 in 1978, the number of students they educated increased from 1.3 million to 1.5 million in the same period (National Center for Education Statistics, 1979).

Also, business and industry seem to be more involved in forms of post-secondary education. The American Council on Education (A.C.E.) states that in 1980 an unprecedented 1,200 courses offered by some 110 businesses and industries have been submitted for evaluation by A.C.E. and have subsequently been recommended for college credit; some 200,000 adults

participate per year just in these A.C.E.-approved business-and industry-sponsored courses (Howlett, 1980). Carbone (1975) offers an illustration of a business in this category. In 1974 the Xerox Corporation began its International Center for Training and Management Development in Leesburg, Virginia; its Educational Research and Development Department conducts courses and program, and even has internships for neighboring colleges and universities.

Business and industry involvement in other forms of postsecondary education is difficult to quantify, though indications are that it is significant. Apart from the aforementioned occupational education provided by schools and institutes, education which by design is terminal in that students are supposed to leave after obtaining requisite skills, and apart from the courses taught within business and industry and evaluated for credit by A.C.E., there are indeterminate numbers of on-going, in-service forms of adult education offered by business and industry. These include subjects like computer technology, communications skills, management, career transitions, and so on. It is apparent that business and industry have increased their adult "training" (education) greatly. The National Association of Manufacturers 1976 Directory contains listings of 148 member organizations offering adult education "programs concerned with economic education, industry-education cooperation, and public affairs." The 1978 Directory contains 300 such organizational offerings (Author, 1978). It is possible that expenditures for employee education approximate a significant portion of the $50.3 billion (Dearman and Plisko, 1980) spent by public and private institutions of higher education yearly.

(f) Finally, the form and substance of postsecondary education is being reshaped because sex and age characteristics of the learners are changing. Women account for 53% of "total headcount enrollments" in two-year institutions (Gilbert, 1980b), and 57% of the 18 million learners in adult education (Dearman and Plisko, 1980). As Table 3 demonstrates, since 1972 the numbers of female students in higher education have increased proportionately more than the numbers of males for each age category, but most dramatically for the ages 25 and over and 35 and over. Table 4 shows that women have come to equal or exceed the percentage of men in the three composite age categories. In another break with "tradition," females now comprise the majority of higher education enrollments.

Women are entering "non-traditional" fields for them, and are abandoning the "traditional." Dearman and Plisko (1980) report that between now and 1988 among bachelor's degrees education's share will drop from 13.6% to 8.7% (a 36.0% decline), as an influx of women help push physical sciences degrees from 12.1% to 13.4% (up 10.7%), health and life sciences degrees from 15.0% to 17.4% (up 16.0%), and business and management degrees from 13.5% to 16.4% (up 21.5%). Importantly, these areas are outside of the social-behavioral sciences, are outside the traditional pattern for women, and thereby create a need, a demand, for the educational psychologist not only to help these disciplines better understand individual learner needs, teacher-learner interactions and learning styles, but also to help women students entering non-traditional fields to deal with entry or re-entry problems, anxiety and stress, to develop communication skills, study techniques and other coping and achievment principles. There is a need not only for an adult educational psychology, but also for an adult educational

psychology sensitive to sex differences in learner needs, learning styles, etc.

Perhaps as fundamental a change in learner characteristics is the increasing age of learners in postsecondary education. Among two-year institutions the present mean age of students enrolled for credit is 27, the median being 23.3. While only 47% of all two-year college learners were over age 20 in 1970, some 63% were above age 20 in 1977. Among Fall 1977 enrollments in higher education nearly 1.3 million were above age 35 (Gilbert, 1980c). As can be seen from Table 5, mature and older learners comprise the largest proportion of participants in adult education. Similarly apparent is the movement away from degree programs and toward continuing education for successively older cohorts. Though it remains to be seen if this phenomenon is cohort-specific or an age-trend, the notion of lifelong learning seems increasingly tenable, as that of age-segmented, youth-oriented educations seems untenable.

The emerging form and substance of postsecondary education, then, reflects changes in degree orientation, student enrollment status, credit versus non-credit participation, competition for higher education from various noncollegiate postsecondary sources, a steady shift toward a female majority in higher and adult education, and a pronounced aging of the student population. The higher education institution and its instructional staff must accommodate these changes. Unfortunately, the National Center for Education Statistics (1980) estimates an 8.2% drop in the next eight years in the number of full-time staff, Instructors and above, and a 5.7% drop in the number of similar part-time staff. So, the average instructional staff loss (7.7%) will be greater than the decline in total enrollments in higher education (4.8%) in the same period, and will coincide with qualitative

changes in postsecondary education that are enormous. The attendant challenges and opportunities for research and pedagogy by educational psychologists are likewise enormous.

3. New conceptions of adult development

It is apparent from the previous discussions that a concept of human development tied to biological processes, assuming cognitive growth to occur fundamentally prior to maturity and/or assuming cognitive stagnation or decline to occur after maturity, is inappropriate at best. Adult development is not static; rather it is characterized by a continuous dialectic of assimilation and accommodation, and the potential for continuous intra-personal and inter-personal growth. Adult development involves continuous re-evaluations and re-definitions of self. Learning in the broad sense is a continuous, life-long experience. Learning in the formal education sense should reflect these awarenesses.

The dynamics of these principles can be seen in the characteristics of the participants in adult education. The majority (56.7%) have had some college experience, compared to less than one-third (29.5%) of the general adult population who have had some college experience (Dearman and Plisko, 1980). The "average" adult education learner, according to Boaz and Kay (1980) is 36 years old, has had two years of college, and is seeking personal (31%) and/or career advancement (39%); most are not looking for a certificate, degree or diploma. This suggests that higher education can be a meaningful part of on-going, life-long learning patterns, and that formal education is part of the dynamics of adult change.

The AACJC estimates that some 40 million adults will experience one predictable adult transition, the career change, in the next ten years.

Significantly the majority will turn to institutions of higher education for training and re-training (Gilbert, 1980d).

Other predictable transitions affecting mature and older adults include marital dissolution, "nest-leaving," labor force reentry for women, mid-life crises, loss and widowhood, and pre-retirement planning. To help meet the dynamics of adult development education needs an adult educational psychology.

4. The substantiation of life-long learning

As Table 5 and the preceding sections indicate, life-long learning would seem to be indicated in the aging of student populations, in the proliferation of noncollegiate postsecondary instructional programs, and especially in the growth of adult education. A very broad concept, adult education includes: courses for credit on a part-time basis; continuing education courses for non-credit; courses taken full-time in vocational or occupational programs lasting less than six months; courses given by correspondence, television, radio, and tutor; courses given by employers, labor organizations and the like; and adult basic education. In this range of adult education over 18 million adults are participants. What better substantiation of lifelong learning.

Finally, educational psychology has a role to play in fostering life-long learning. The current emphases of educational psychology include cognitive skills and intelligence, motivation, learning, memory and discipline. Excepting discipline, there is need for systematic research upon and subsequent teaching about these phenomena as related to adults. Some observations about teaching follow first, and some research questions later.

Ansello and Hayslip (1979) have demonstrated the prevalence of negative, inhibitory stereotypes about the cognitive abilities of adults, especially older adults. Adult learners assume the responsibility for their own learning, are self-directed, and are competency-oriented more than grade-oriented. But how much aspiration is down-graded because of socio-cultural delimited expectations is unknown. Baltes and Labouvie (1973) note that for older adults in our culture, there is little reinforcement for good cognitive behavior. Regarding learning and its correlate, memory, with adult learners learning is not always associated with regularly scheduled classes, but proceeds according to the needs of the individual adult; there is need for tested individually-designed learning experiences, and for learning that is demonstrably experientially-based; there is a greater likelihood for the adult student to interact with faculty in planning and evaluating the adult student's course and overall-goal progress; and so, with adults there is the greater potential for the educator to act as "broker" at times between adult learners and learning opportunities.

By growing out of an age-segmented, youth-oriented mentality, educational psychology opens vast horizons of research potential for itself; and in attempting it, demonstrates its special value to the education community. Just a few of the unanswered questions include:

> How do expectations affect cognitive functions? Are differences in learning and intellectual abilities with age cohort-specific; do they reflect socio-cultural influences or physiological decrement? Is intelligence age-segmented? Why do global intelligence measures evaluate knowledge and skills appropriate to specific age-segments rather than assessing the individual's changing understanding of the same concept across developmental periods

(Baltes and Willis, 1978)? Is cognitive growth tied to biological maturation? Is adult development monotonic, saltatory or dialectical? Is cognitive functioning in old age modifiable?

If greater numbers of adults are to be involved in higher education, can they learn and retain information as well as their tradition-aged (18-24) counterparts? Should the task of the university be to intervene, to relieve "relative deprivation," to make older students learn more in the manner of those younger (Hultsch, 1974)? Why do older adults in contrast to younger adults tend not to organize material spontaneously when initially learning it (Hulicka and Grossman, 1967)? Can adult performance be improved through teaching mnemonic devices, such as the method of loci (Robertson-Tchabo et al, 1976) , learning strategies, and self-instructional training (Meichenbaum, 1974)?

This paper maintains that there are needs for research regarding the older learner. There are needs for understanding of the diverse factors, motivations, styles, and expressions of adult learning, and for a comprehensive theory of adult learning. Those involved as instructors in adult learning settings are often part-time educators, their primary occupations being perhaps office manager, carpenter, artist or nurse. No less than their professional counterparts, they need information on adult learning: taxonomies of objectives, methodologies, whole curriculum models. Educational psycholgists must assume the comprehensive examination of adult

learning in order to enhance and enrich its performance in this multiplicity of settings. Educational psychologists should foster the adult learner's need to know, and should enhance their colleagues' abilities to help that learner know.

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Table 1

Changes in Population, and in Prospective Higher Eduction Student Pools, by Age Group, 1980-1990

All Races	1980	1990	Change
	(numbers in millions)		
14-17 yrs.	15.8	12.7	- 19.6%
18-24 yrs.	29.5	25.1	- 14.9%
25-34 yrs.	36.2	41.1	+ 13.5%
35-44 yrs.	25.7	36.6	+ 42.4%
45-54 yrs.	22.7	25.3	+ 11.5%
55-64 yrs.	21.2	20.8	- 1.9%
65 and above	24.9	29.8	+ 19.7%

Source: U. S. Bureau of the Census, Population Estimates and Projections, Series P-25, 1978.

Table 2

Total Enrollment in Institutions of Higher Education, With Intermediate Projections (after 1978), and Showing Change Over Previous Period

Fall	All Institutions	Four-Year	Two-Year
1970	8,581,000	6,358,000	2,223,000
1975	11,185,000 (+30.3%)	7,215,000 (+13.5%)	3,970,000 (+78.6%)
1980	11,611,000 (+ 3.8%	7,302,000 (+ 1.2%)	4,309,000 (+ 8.5%)
1985	11,358,000 (- 2.2%	6,968,000 (- 4.6%)	4,390,000 (+ 1.9%)
1988	11,048,000 (- 2.7%)	6,694,000 (- 3.9%)	4,354,000 (- 0.8%)

Source: U. S. Department of Health, Education and Welfare, National Center for Education Statistics, Projections of Education Statistics to 1988-89, 1980.

Table 3

Higher Education Enrollment Indices (1972=100), By Age and Sex: 1972-1978

Year	Total 18 and Over	Total 18-24	Total 25 and Over	35 and Over
Enrollment in 1972 (in thousands)	8,801	6,257	2,543	783
Male	5,078	3,534	1,544	366
Female	3,723	2,724	999	418
1972 Total Enrollment	100	100	100	100
Male	100	100	100	100
Female	100	100	100	100
1974 Total Enrollment	108	101	127	131
Male	104	96	120	130
Female	115	107	138	131
1976 Total Enrollment	123	115	145	152
Male	112	104	130	134
Female	139	129	167	166
1978 Total Enrollment	124	112	152	166
Male	108	102	120	125
Female	145	124	202	202

Source: Dearman, N. B. and Plisko, V. W. The Condition of Education, 1980 Edition. U. S. Department of Health, Education and Welfare, National Center for Education Statistics, 1980.

Table 4

Enrollment in Higher Education 18 Years and Older, By Age Group, Sex, And Category Percentage, 1972 vs. 1978

Year	Total 18 & Over	Total 25 & Over	Total 35 & Over
	(numbers in millions)		
1972 Total	8.8	2.5 (29%)	0.78 (9%)
Male	5.1 (58%)	1.5 (60%)	0.36 (47%)
Female	3.7 (42%)	1.0 (40%)	0.42 (53%)
1978 Total	10.9	3.8 (35%)	1.3 (12%)
Male	5.5 (50%)	1.8 (47%)	.46 (35%)
Female	5.4 (50%)	2.0 (53%)	.84 (65%)

Sources: U. S. Department of Commerce, Bureau of the Census, Social and Economic Characteristics of Students, P-20, various years, and original unpublished tabulations.

Table 5

Percentages of Educational Participation, by Type of Participation and Age Group: Year Ending May 1978

Age Group	Participants in Adult Education	Full-Time High School or College Students
17-24	11.2%	31.4%
25-34	20.1%	3.6%
35-54	13.0%	0.8%
55-64	6.8%	0.1%
65 and over	2.4%	0.05%

Source: Dearman, N. B. and Plisko, V. W. The Conditions of Education, 1980 Edition. Washington, D. C.: U. S. Department of Education, National Center for Education Statistics, 1980.